SYSTEMS AND METHODS FOR PSEUDO-RANDOM SIGNAL GENERATION IN A MULTI-CARRIER COMMUNICATIONS SYSTEM

Abstract

The present invention provides systems and methods for pseudo-random signal generation in a multi-carrier communications system. In embodiments, a transmitter includes a pseudo-random bit sequence (PRBS) generator and Medley signal generator. The PRBS generator can operate in at least one of the following modes: a parameter selection mode, a scrambler mode, and/or a combination mode. The Medley signal generator receives an output bit sequence from the PRBS generator. The Medley signal generator then generates a Medley signal which includes a set of Medley tones encoded based on the output bit sequence from the PRBS generator. The Medley signal is then sent over channels of a multi-carrier communication system such as an ADSL system.